Amendments to the Claims

Please cancel claims 3-5 and 16 without prejudice.

The following listing of claims will replace all prior versions and/or listings of claims in the application:

1. (Currently amended): An instrumented antifriction bearing device comprising:

a rotating portion;

a nonrotating portion; and

an assembly configured to detect rotation parameters, wherein the assembly comprises:

an encoder ;

a sensor, wherein the sensor is integrated with the nonrotating portion, and wherein the sensor comprises:

a sensor unit; ~~and~~

at least one reception microcoil and at least one transmission microcoil, ~~wherein a~~ each microcoil ~~is~~ being a substantially flat winding, ~~and~~

wherein ~~the microcoil is~~ said microcoils are positioned on a support of a circuit that is coupled to the sensor unit of the nonrotating portion, and wherein ~~the microcoil is~~said microcoils are configured to be positioned axially opposite the encoder.

2. (Previously presented): The device of claim 1, further comprising a plurality of substantially radial coplanar reception microcoils.

3-5. (Canceled)

6. (Currently amended): The device of ~~claim 1~~claim 2, ~~further comprising a plurality of~~ wherein said microcoils are linked in pairs, and wherein the linking reception microcoils are configured to generate a differential signal.

7. (Previously presented): The device of claim 1, wherein the encoder comprises an encoder wheel, and wherein the encoder wheel comprises an active zone, and wherein the active zone comprises an electrically conducting metal.

8. (Previously presented): The device of claim 1, wherein the encoder comprises an encoder wheel, and wherein the encoder wheel comprises windows.

9. (Previously presented): The device of claim 1, wherein the encoder comprises a printed circuit, and wherein the printed circuit comprises an annular substrate with metallized sectors and nonmetallized sectors.

10. (Currently amended): The device of ~~claim 9~~claim 10, wherein the printed circuit is coupled to a rotating track of the antifriction bearing.

11. (Currently amended): The device of claim 1, wherein a space is defined between two cylindrical races of the antifriction bearing and frontal surfaces delimiting said races and wherein at least one portion of the encoder is positioned in ~~the~~ said space between the antifriction bearing tracks.

12. (Currently amended): The device of claim 1, wherein a space is defined between two cylindrical races of the antifriction bearing and frontal surfaces delimiting said races and wherein the encoder is positioned outside ~~the~~ said space ~~between the antifriction bearing tracks~~.

13. (Previously presented): The device of claim 1, wherein the sensor unit is substantially annular.

14. (Previously presented): The device of claim 1, wherein the sensor unit occupies an angular sector of less than approximately 360°.

15. (Currently amended): An electric motor comprising:

a rotor;

a stator;

at least one antifriction bearing, wherein an antifriction bearing is configured to support the rotor; and

a sensor assembly comprising:

an encoder; and

a sensor, integrated with the stator, wherein the sensor comprises:

at least one reception microcoil and at least one transmission microcoil, wherein ~~a~~ each microcoil comprises an essentially flat winding, and wherein ~~a microcoil is~~ said microcoils are positioned on a support of a circuit coupled to the sensor ~~unit integrated with the stator~~ such that ~~the microcoil is~~ said microcoils are positionable axially opposite the encoder.

16. (Canceled)

17. (New): The device of claim 1, wherein the encoder comprises an encoder wheel, and wherein the encoder wheel comprises teeth.

18. (New): An instrumented antifriction bearing device comprising:
a rotating portion;
a nonrotating portion; and
an assembly configured to detect rotation parameters, wherein the assembly comprises:
an encoder;
a sensor, wherein the sensor is integrated with the nonrotating portion, and

wherein the sensor comprises:

at least one transmission coil;

at least one reception coil; and

a data processing circuit; wherein a transmission coil, a reception coil, and a date processing circuit are positioned on a support;

wherein a reception coil is a substantially flat microcoil winding and said reception coil is configured to be positioned axially opposite the encoder.

19. (New): The device of claim 18, wherein the encoder comprises an encoder wheel, and wherein the encoder wheel comprises an active zone, and wherein the active zone comprises an electrically conducting metal.

20. (New): The device of claim 18, wherein the encoder comprises an encoder wheel, and wherein the encoder wheel comprises windows.

21. (New): The device of claim 1, wherein the encoder comprises a printed circuit, and wherein the printed circuit comprises an annular substrate with metallized sectors and nonmetallized sectors.

22. (New): The device of claim 18, wherein the encoder comprises an encoder wheel, and wherein the encoder wheel comprises teeth.